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“The Right to Information, The Right to Live”

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Jawaharlal Nehru

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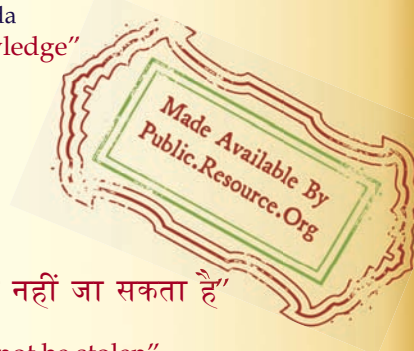
IS 6632 (1988): wooden folding chairs [CED 35: Furniture]



“ज्ञान से एक नये भारत का निर्माण”

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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard
SPECIFICATION FOR
WOODEN FOLDING CHAIRS
(*First Revision*)

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**AMENDMENT NO. 1 SEPTEMBER 1993
TO
IS 6632 : 1988 SPECIFICATION FOR WOODEN
FOLDING CHAIRS**

(First Revision)

(*Page 1, clause 2.4*) — Add the following new clause after **2.4** and renumber the subsequent clauses:

“2.5 Medium Density Fibreboards (MDF)

MDF used for the manufacture of folding chairs shall conform to IS 12406 : 1988 ‘Specification for medium density fibreboard for general purposes’.”

(CED 35)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 2 JANUARY 1997
TO
IS 6632 : 1988 SPECIFICATION FOR WOODEN
FOLDING CHAIRS

(First Revision)

(*Page 1, clause 0.4*) — Insert the following new clause after **0.4** and renumber the subsequent clauses:

‘0.5 A scheme of labelling environment friendly products to be known as ECO Mark is being introduced at the instance of the Ministry of Environment and Forests (MEF), Government of India. The ECO Mark shall be administered by the Bureau of Indian Standards (BIS) under the *BIS Act*, 1986 as per the Resolution No. 71 dated 21 February 1991 published in the Gazette of the Government of India. For a product to be eligible for ECO Mark, it shall also carry the Standard Mark of the BIS, besides meeting additional optional environment friendly requirements.’

(*Page 1, clause 2.1*) — Substitute the following for the existing clause:

‘2.1 Timber — Any species of timber specified in IS 13622 : 1993 ‘Indian timber for furnitures and cabinets — Classification’ shall be used in the manufacture of chairs.

2.1.1 For ECO Mark, only species of timber as specified in IS 13622:1993 from sources other than natural forests such as timber from industrial and social forestry plantations, shade trees from tea and coffee estates, etc, shall be used for the manufacture of chairs.’

(*Page 1, clause 2.4*) — Substitute the following for the existing clause:

‘2.4 Plywood — Plywood used shall conform to IS 303 : 1989 ‘Specification for plywood for general purposes (*third revision*)’.

2.4.1 For ECO Mark the plywood shall conform to the requirements specified in IS 303:1989 for ECO Mark purposes.’

(*Page 1, clause 2.5, see also Amendment No. 1*) — Insert the following at the end of the clause:

‘For ECO Mark, the medium density fibreboard shall conform to the requirements specified in IS 12406 : 1988 for ECO Mark purposes.’

Amend No. 2 to IS 6632 : 1988

(Page 2, clause 4.1) — Insert the following new clause after 4.1 and renumber the subsequent clauses:

‘5 ADDITIONAL REQUIREMENTS FOR ECO MARK

5.1 General Requirements

5.1.1 The product shall conform to the requirements of quality and performance as specified in the standard.

5.1.2 The manufacturer shall produce to BIS environmental consent clearance from the concerned State Pollution Control Board as per the provisions of the *Water (Prevention and Control of Pollution) Act, 1974* and *Air (Prevention and Control of Pollution) Act, 1981* alongwith the authorization, if required under the *Environment (Protection) Act, 1986*, while applying for ECO Mark.

5.2 Specific Requirements

The product shall conform to the specific requirements given for ECO Mark under relevant clauses of this standard.

NOTE — The manufacturer shall provide documentary evidence by way of certificate or declaration to this effect to the Bureau of Indian Standards while applying for ECO Mark.’

(Page 2, clause 6.1.1) — Insert the following new clause after 6.1.1:

‘6.2 The criteria for which the product has been labelled as ECO Mark .’

(CED 35)

Indian Standard

SPECIFICATION FOR WOODEN FOLDING CHAIRS

(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards on 12 October 1988, after the draft finalized by the Furniture Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Wooden folding chair is an item of daily household use specially for outdoor areas, and also during public and private functions where large gatherings are to be catered for short periods.

0.2.1 The popularity of this item of furniture further increases due to the fact that large quantities of such chairs can be stored and transported with comparative ease.

0.3 This standard was first published in 1972. In this revision, the tests for strength and stability of chair and also finished surface have been included. The revised standard also

makes reference to the recent Indian Standards for various types of materials allowed in the standard.

0.4 This standard contains clause 3.3 which calls for agreement between the manufacturer and the purchaser and clause 2.5 which permits the purchaser to use his option for selection to suit his requirements.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard covers the requirements for materials, dimensions and manufacture and finish of wooden folding chairs.

2. MATERIALS

2.1 Solid Wood Components — Any of the species of timber recommended for furniture and cabinet making in IS : 399-1963* shall be used in the manufacture of chairs. The wood used shall be seasoned timber with moisture content as permissible for different climatic zones in IS : 287-1973†. The specification of wood shall conform to IS : 1331-1977‡. Preservative treatment as specified in IS : 401-1982§ shall be given to the components of non-durable wood and sapwood of durable wood which are to be concealed under upholstery.

2.2 Adhesives — Adhesives used for joinery work

*Classification of commercial timbers and their zonal distribution (*revised*).

†Recommendations for maximum permissible moisture content of timber used for different purposes in different climatic zones (*second revision*).

‡Specification for cut sizes of timber (*second revision*).

§Code of practice for preservation of timber (*third revision*).

shall conform to IS : 848-1974*, IS : 849-1957† and IS : 4835-1979‡.

2.3 Wood Screws — Wood screws used for joinery work shall be slotted countersunk head and shall conform to IS : 451-1972§.

2.4 Plywood — Polywood used in the manufacture of wooden folding chairs shall conform to IS : 303-1975||. Any of the two grades of plywood, namely, BWR or WWR may be used if air drying paints, enamels or vanishes are to be used. Where oven drying finish is to be adopted, only BWR grade of plywood shall be used.

2.5 Decorative Plastic Laminates — Decorative plastic laminates used for the surface of the seat or the back shall conform to IS : 2046-1969¶ and shall be of a design and finish as specified by the purchaser.

*Specification for synthetic resin adhesives for plywood (phenolic and aminoplastic) (*first revision*).

†Specification for cold setting casein glue for wood.

‡Specification for polyvinyl acetate dispersion-based adhesives for wood (*first revision*).

§Technical supply condition for wood screws (*second revision*).

||Specification for plywood for general purposes (*second revision*).

¶Specification for decorative thermosetting synthetic resin bonded laminated sheets (*first revision*).

2.5.1 Rixin and PVC or other plastic cloth required for the upholstery shall conform to the relevant Indian Standards. Where no specification exists, it shall be approved by the purchaser.

3. DIMENSIONS, TOLERANCES AND MANUFACTURE

3.1 The overall dimensions of wooden folding chairs shall be as given in Fig. 1.

3.2 The tolerances on dimensions of the chair and its components shall be as given below:

- | | |
|------------------------------------|--------------------|
| a) Length | $\pm 3 \text{ mm}$ |
| b) Height, width and depth | $\pm 3 \text{ mm}$ |
| c) Component dimensions in section | $\pm 1 \text{ mm}$ |

3.3 The design and constructional details may be as mutually agreed to between the manufacturer and the purchaser.

4. FINISH

4.1 For finishing, the surface shall be waxed, french polished, varnished or painted. The method of application of finish shall conform to IS : 2338 (Part 1)-1967*. Clear lacquer paint,

*Code of practice for finishing of wood and wood based materials: Part 1 Operation and workmanship.

melamine resin based paints or polyurethane paints, when used, shall be applied according to the manufacturer's instructions.

5. TESTS AND SAMPLING

5.1 The physical tests, visual examination and scale of sampling shall be as specified in Appendix A.

6. MARKING

6.1 All wooden folding chairs shall be marked with a suitable mark identifying the manufacturer.

6.1.1 The wooden folding chairs may also be marked with the Standard Mark.

NOTE — The use of Standard Mark is governed by the provisions of the Bureau of Indian Standards Act 1986 and Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

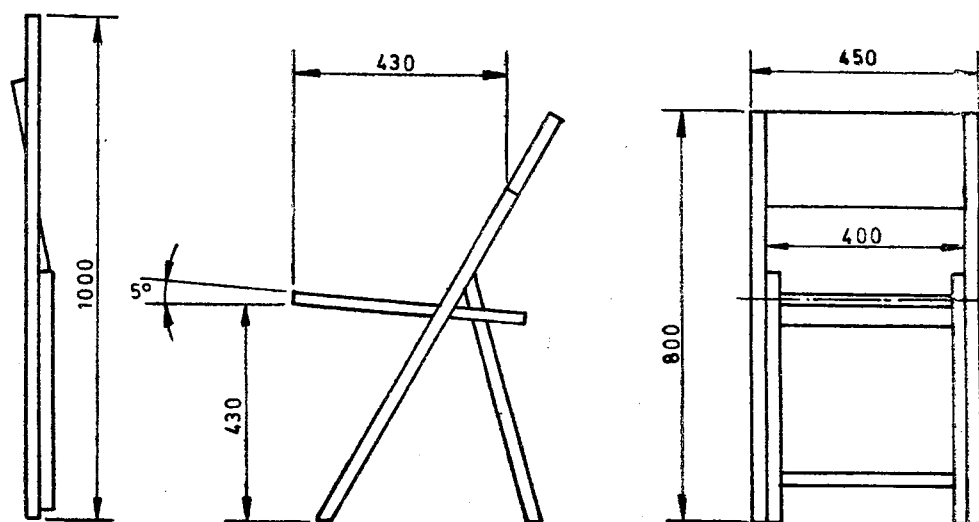


FIG. 1 A TYPICAL SKETCH OF WOODEN FOLDING CHAIR

APPENDIX A

(Clause 5.1)

TESTS AND SAMPLING

A-1. PHYSICAL TESTS

A-1.1 Joint and Surface Smoothness Test — By passing fingers lightly up and down on various wooden parts, there shall be no feeling of appreciable waviness or any fibres pricking into the fingers. No projection of any dowel pins or nails at the joints shall be felt by the fingers. The joints shall be tight and well made.

A-1.2 Humidity Variation Test

A-1.2.1 The chair before being polished or painted shall be placed in a moist enclosure for seven days at a temperature of 20°C and relative humidity 85 percent. It will then be removed to a dry enclosure for seven days at a temperature of 40°C and relative humidity 30 percent.

A-1.2.2 The test sample shall not show distortions, loosening of materials/joints, oxidation and other defects.

A-2. STRENGTH AND STABILITY TESTS

A-2.1 General — Design of wooden folding chair shall be consistent with the accepted design and the same shall appear to be symmetrical with reference to its central axis and there shall be no sharp edges causing inconvenience in the normal handling and the use of a chair.

A-2.2 Strength Requirements — The folding chairs when tested in accordance with IS : 5416 (Part 1)-1988* at the appropriate level depending on usage of chairs shall show no sign of defects.

A-2.3 Stability Requirements — The folding chairs when tested in accordance with IS : 5416 (Part 2)-1988† at the appropriate level depending on its usage shall not show any sign of defects.

A-2.4 Resistance of the Surface to Dry Heat — The finished surface of test samples shall be tested for resistance to dry heat in accordance

with IS : 5807 (Part 1)-1975*. The minimum qualifying average ratings shall conform to 7 of IS : 5807 (Part 1)-1975*.

A-2.5 Resistance of the Surface to Wet Heat — The finished surface of test sample shall be tested for resistance to hot water as given in IS : 5807 (Part 2)-1975†. The minimum qualifying average ratings shall conform to 7 of IS : 5807 (Part 2)-1975†.

A-2.6 Resistance of Surface to Marking by Liquids — The finish surface of the test sample shall be tested for resistance to marking by liquids in accordance with IS : 5807 (Part 4)-1975‡. The minimum qualifying average rating shall conform to 8 of IS : 5807 (Part 4)-1975‡.

A-2.7 Resistance of Surface to Mechanical Damage — The finish surface of test sample shall be tested for impact, cross-cut and scrape tests in accordance with IS-5807 (Part 6)-1978§. The rating shall conform to 5.3 of IS : 5807 (Part 6)-1978§.

A-3. TEST SAMPLE

A-3.1 The samples shall be drawn at random from a lot in accordance with Table 1.

TABLE 1 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVES

LOT SIZE (No OF CHAIRS IN THE LOT)	SAMPLE SIZE (No. OF CHAIRS TO BE SELECTED FOR THE SAMPLE)	PERMISSIBLE No. OF DEFECTIVE CHAIRS
(1)	(2)	(3)
Up to 50	3	0
51 „ 150	5	0
151 „ 300	8	0
301 „ 500	13	0
501 „ 1 000	28	1
1 001 „ 3 000	32	2
3 001 and above	50	3

*Method of test for clear finishes for wooden furniture: Part 1 Resistance to dry heat (*first revision*).

†Method of test for clear finishes for wooden furniture: Part 2 Resistance to wet heat (*first revision*).

‡Method of test for clear finishes for wooden furniture: Part 4 Resistance to marking by liquids.

§Method of test for clear finishes for wooden furniture: Part 6 Resistance to mechanical damage.

*Methods of test for strength and stability of chairs and stools: Part 1 Strength.

†Methods of test for strength and stability of chairs and stools: Part 2 Stability (*under preparation*).

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